

What is claimed is:

Sub B1
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1. An optical pickup comprising: a light-emitting part having plural light sources that emit laser beams of which wavelengths are different and optical axes are mutually parallel with a specific distance; a light-receiving member having a light-receiving element; and a beam splitter that admits the laser beams, delivers the laser beams toward optical disks, and guides return beams from the optical disks toward the light-receiving member where the light-receiving element receives the return beams, wherein:

the beam splitter is provided with a wavelength-separating layer,

the wavelength-separating layer is comprised of two interfaces and a medium having a specific refractive index, placed between the interfaces, or more than three interfaces and media each having specific refractive indexes, placed between the interfaces, and

the beam splitter reflects or permeates the laser beams at or through the interfaces, brings the optical axes of the laser beams after reflection into coincidence, delivers the laser beams out of the beam splitter, and permeates the return beams through the wavelength-separating layer to guide them toward the light-receiving member.

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2. An optical pickup according to Claim 1, wherein the light-emitting part has two light sources that emit a first laser beam having a first wavelength and a second laser beam having a second wavelength, the wavelength-separating layer has a first interface and a second interface, the first and the second interfaces each have a first and a second wavelength selecting films formed thereon, which reflect or permeate the first and the second laser beams each by specific rates, the first interface reflects the first laser beam and permeates the second laser beam, the second interface reflects the second laser beam, and the first and the second interfaces permeate the first and the second laser beams, with regard to the return beams.

Sub B2
3. An optical pickup according to Claim 2, wherein the first wavelength selecting film reflects the first laser beam approximately by 50 %, permeates it approximately by 50 %, and permeates the second laser beam almost by 100 %, and the second wavelength selecting film permeates the first laser beam almost by 100 %, reflects the second laser beam approximately by 50 %, and permeates it approximately by 50 %.

4. An optical pickup according to Claim 1, wherein the light-emitting part has two light sources that emit a first

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laser beam having a first wavelength and a second laser beam having a second wavelength, the wavelength-separating layer has a first interface and a second interface, and the first and the second interfaces each have a first and a second polarization separating films formed thereon, which reflect and permeate the first and the second laser beams in accordance with the polarization states thereof.

5. An optical pickup according to Claim 1, wherein the beam splitter includes an optical plate and the wavelength-separating layer formed on the optical plate.

6. An optical pickup according to Claim 1, wherein the light-emitting part is a light-emitting member contained in one package.

7. An optical pickup according to Claim 6, wherein a diffraction grating is disposed between the light-emitting member and the beam splitter.

8. An optical pickup according to Claim 6, wherein the light-emitting member and the beam splitter each are fastened to a carriage separately, the interfaces are parallel with each other, the light-emitting member is arranged in such a manner

that the light sources are parallel with a direction along the surfaces of the optical disk, and the beam splitter is disposed in such a manner that the incident angles of the laser beams on the interfaces are virtually 45° .

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